Block 23: Description of Avoidance, Minimization, and Compensation

Siting Alternatives Analysis, Avoidance, and Minimization

An alternatives analysis was completed to evaluate the need for the Sea Port Oil Terminal (SPOT) Project and the process and criteria for identifying and evaluating alternatives for the Project's proposed action and associated onshore components. The SPOT Project has been sited and designed to meet the purpose and need while avoiding, minimizing, and, where necessary, mitigating environmental impacts. A number of environmental objectives were important in the SPOT Project's site selection process and design, and include:

Site Selection Criteria:

- Offshore deepwater port (DWP) that would minimize vessel traffic (VLCCs and other crude oil carriers) in inland waterways and eliminate the need for the dredging that would be required for VLCCs to enter inland waterways due to draft requirements and allowing the VLCCs to load offshore at water depths adequate for VLCC drafts and away from inland waterways traffic;

- Offshore DWP site that does not interfere with existing marine traffic offshore;

- Offshore DWP to reduce inefficiencies with current lightering operations;

- Offshore DWP location that is near established and operational U.S. crude oil supply infrastructure with access to multiple sources;

- Offshore DWP location that has access to the Enterprise Crude Pipeline LLC network and, specifically, the existing Enterprise Crude Houston (ECHO) Terminal, as this location has crude oil connectivity to the upstream supply of crude oil;

- Offshore DWP site that is not within designated sensitive marine habitats;

- Offshore DWP site that avoids and minimizes impacts to marine archeological resources;

- Onshore storage facility location that does not contain sensitive environmental features;

- Onshore pipeline routes that maximize colocation with other existing linear energy infrastructure;

- Onshore pipeline route that avoids federal, state, or local owned lands or sensitive wildlife habitat; and

- Onshore pipeline routes that minimize crossings of waters of the U.S.

Design Criteria:

- Including designs and technologies of overpressure protection and other regulatory code requirements that have been proven worldwide and are currently utilized in the Gulf of Mexico in order to minimize risks from unproven technologies;

- Providing a DWP design that allows for vapor recovery, thereby reducing air emissions during loading operations;

- Designing a DWP that is simple and safe to operate by including overpressure protection in the design;

- Designing a DWP that has the least interference from severe sea states – severe variations in waves and swell;

- Designing a DWP that can be called upon by the existing worldwide fleet of VLCCs or other crude oil carriers by matching the worldwide fleet piping manifold pressure limitations;

- Providing a maximum frequency of 365 annual crude oil loadings for VLCCs or other crude oil carriers for export by protecting the loadings hoses from overpressure while loading at high rates;

- Including systems at the DWP that can be operated intermittently and do not require long startup or shutdown times; and

- Including foundation systems that can safely withstand tropical storms and hurricanes in the Gulf of Mexico.

The SPOT Project has been sited and designed to meet these objectives. The purpose of the SPOT Project onshore siting study was to determine the preferred location for the onshore supply of crude oil for the SPOT DWP. The Applicant's affiliates currently own and operate the assets that would serve as the source of crude oil for the proposed Project. The DWP should have access to the existing Enterprise Products Operating LLC supply system and, specifically, the existing ECHO Terminal and, as such, that point was examined as the starting point for siting the onshore pipeline and crude oil storage facility.

The following section details the process and analysis undertaken on behalf of the Applicant to determine the alternatives for siting the onshore portions of the SPOT Project in Brazoria and Harris counties, Texas.

The Applicant used a tiered approach to identify alternative sites for aboveground facilities and the onshore pipelines for the SPOT Project. The following bulleted list provides an overview of the tiers, and Table 2-1 describes the Tier 1 and Tier 2 Project siting criteria.

- **Tier 1**: These siting criteria were utilized to identify potential alternatives for siting the aboveground facilities and pipelines.

- **Tier 2**: These siting criteria were utilized to refine and evaluate each of the alternatives chosen in Tier 1.

Table 1. Siting Criteria for the Onshore Aboveground Facilities and Onshore Pipeline

Siting Criteria	Description
Tier 1 Siting Criteria	
Feed Crude Oil Supply	To meet the purpose and need of the proposed Project, feed crude oil supply must begin at the existing Enterprise Crude Pipeline LLC ECHO Terminal, which receives supply from other sources of crude oil.
Suitable and Available Parcels of Land for the Placement of the Tank Farm and Aboveground Facility	For siting of the tank farm and aboveground facilities associated with the Project, an available property of at least 100 acres is required. Parcels must be available for the development of the proposed tank farm, and the landowner must be willing to reach a contractual agreement with the Applicant for the purchase or lease of lands.
Colocation with Energy Rights-of-Way — Pipelines	For siting of onshore pipeline alternatives, the opportunity for colocation within existing pipeline and electrical transmission line rights-of-way.
Tier 2 Siting Criteria	
Total Length	In evaluation of the pipeline alternatives, total length is a consideration, as increased length has the potential to increase total land requirements or Project costs.
Federal, State, and Locally Owned Property	For the purpose of siting the aboveground facilities, federal, state, and locally owned properties used for conservation, preservation, or recreation were avoided. For the purpose of siting and evaluation of the onshore pipeline alternatives, federal, state, and locally owned properties used for conservation, preservation, or recreation, were minimized and avoided, to the extent practicable.

Table 1. Siting Criteria for the Onshore Aboveground Facilities and Onshore Pipeline

Siting Criteria	Description
Land Cover/Land Use	For the purpose of siting the aboveground facilities, altered land covers, such as agricultural lands or pre-disturbed lands, were given preference over less compatible land covers, such as forested lands. For the purpose of siting and evaluation of the onshore pipeline alternatives, compatible land uses with pipeline construction and operation, such as agricultural lands or open lands, were given preference over less compatible land covers, such as forested lands or urban/developed lands.
Prime Farmland Soils	For the purpose of siting the aboveground facilities and onshore pipeline, alternatives that minimize or avoid prime farmland soils are preferred. Prime farmland soils are designated as such because they have a high agricultural value.
Wetlands	For the purpose of siting and evaluating the aboveground facilities and pipeline, avoidance of wetlands and minimization of wetland disturbance was given preference to the maximum extent practicable. Forested wetlands are considered less desirable than herbaceous wetlands for pipeline siting, as forested wetlands would be permanently converted to herbaceous wetlands during the operational life of the pipeline.
Waterbodies	For the purpose of siting of the aboveground facilities, waterbodies were avoided to the maximum extent practicable. If unavoidable, preference was given to alternatives that minimized the crossing of waterbodies. For the purpose of siting and evaluating pipeline alternatives, the number of waterbodies crossed was evaluated, with preference given to the alternative that avoided impacts to the maximum extent practicable, and for unavoidable impacts, minimized the number of waterbody crossings.
Floodplains	For the purpose of siting and evaluating the aboveground facilities and onshore pipeline, minimization of facilities within the 100-year floodplain was given preference. Avoidance of the 100-year floodplain was not practicable, given that the Project must be located along the Texas Gulf Coast.
National Register of Historic Places (NRHP)	For the purpose of siting the aboveground facilities and onshore pipeline, alternatives that avoid or minimize impacts on NRHP-registered sites are preferred. NRHP information was used to identify officially designated historic places deemed worthy of preservation. Impacts on registered sites would increase the regulatory review and require mitigation.

Table 1. Siting Criteria for the Onshore Aboveground Facilities and Onshore Pipeline

Siting Criteria	Description
U.S. Fish and Wildlife Service (USFWS) Designated Critical Habitat	For the purpose of siting the aboveground facilities and onshore pipeline, alternatives that avoided the crossing of USFWS-designated critical habitat for federally listed threatened or endangered species were preferred.
Steep Slopes	For the purpose of siting and evaluating aboveground facilities and onshore pipeline, avoidance and minimization of facilities in areas of steep slopes was given preference.
Shallow Bedrock	For the purpose of siting and evaluating the aboveground facilities and onshore pipeline, avoidance and minimization of facilities in areas with shallow bedrock was given preference.
Karst Topography	For the purpose of siting and evaluating the aboveground facilities and onshore pipeline, avoidance and minimization of facilities in areas with karst topography was given preference.
Pipeline Crossings	For the purpose of siting and evaluating the aboveground facilities and onshore pipeline, avoidance and minimization of pipeline crossings was given preference due to engineering/construction constraints associated with these crossings.
Electrical Transmission Line Crossings	For the purpose of siting and evaluating the aboveground facilities and onshore pipeline, avoidance and minimization of transmission line crossings was given preference due to engineering/construction constraints associated with these crossings.
Road Crossings	For the purpose of siting and evaluating the aboveground facilities and pipeline, avoidance and minimization of road crossings was given preference due to engineering/construction constraints associated with these crossings.
Noise Sensitive Areas (NSAs)	For the purpose of evaluating the aboveground facilities, NSAs within 0.5 mile were identified for comparison of the alternatives. Alternatives with fewer NSAs were given preference. For the purpose of evaluating the onshore pipeline alternatives, residential and commercial land uses (assessed in the Land Cover/Land Use siting criteria) provide a reference for potential NSAs. Therefore, alternatives with fewer residential and commercial land use crossings were given preference.

During Tier 1 evaluation, the Applicant identified potential alternative pipeline routes for the onshore crude oil pipelines. As noted in the siting criteria above, the onshore pipeline alternatives must originate at the ECHO Terminal, which connects to other upstream sources and lead to the Gulf of Mexico. As such, in identifying pipeline alternatives, the Applicant looked for large

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constraints between the ECHO Terminal and the Gulf of Mexico. As shown on Figure 23-1, the ECHO Terminal is located in a developed portion of Harris County, Texas, and the land between the terminal and the Gulf of Mexico through Galveston County, Texas, is also heavily developed, which is not desirable for siting of a crude oil pipeline. To the west and in Brazoria County, Texas, there is less developed land, and opportunities to site the crude oil pipelines were present. As shown on Figure 23-1, the Brazoria National Wildlife Refuge (NWR) also exists in coastal Brazoria County, providing another constraint for routing.

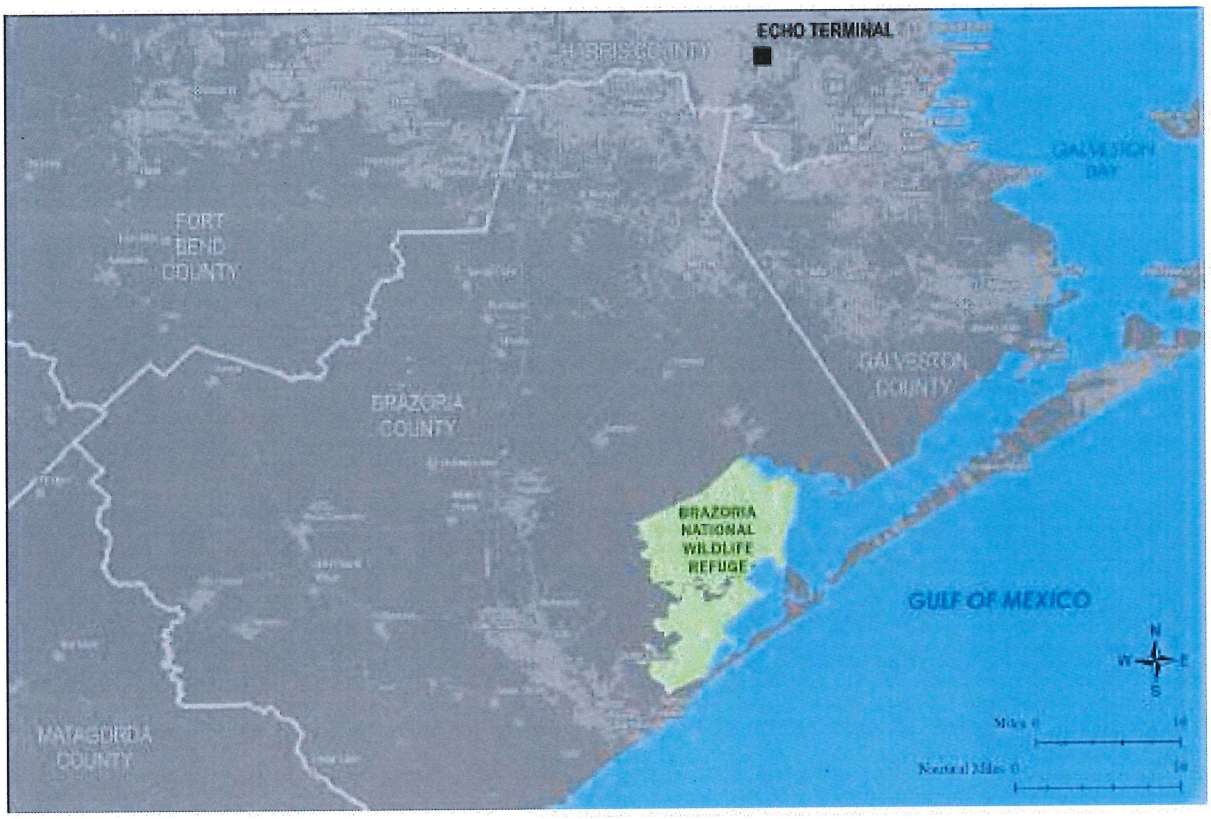

Figure 23-1 Tier 1 Siting

The Applicant then examined potential alternatives leading from ECHO Terminal to Brazoria County and to the Gulf of Mexico. During this evaluation, it is was evident to the Applicant that the only available alternative leading from ECHO Terminal to Brazoria County was to co-locate with Enterprise Crude Pipeline LLC's existing Rancho II pipeline due to heavy development in Harris County and northern Brazoria County. Once this co-located route reached the end of the heavy development, southwest of Manvel, Texas, the Applicant looked to identify alternatives utilizing existing energy rights-of-way (ROW) corridors, to the extent practicable. The examination resulted in five potential pipeline alternatives through Brazoria County, Texas. Figure 23-2 (attached) illustrates the Tier 1 identified pipeline alternatives. For the purposes of this siting analysis, the single alternative through the heavily developed areas is Segment A and the five alternatives through Brazoria County are Segment B.

The Applicant then examined the Segment B alternatives per the Tier 2 siting criteria presented in Table 1. The results of this analysis can be found in Table 2. As shown in Table 2, steep slopes, shallow bedrock, and karst topography do not exist along any of the alternative routes and, therefore, these are non-discriminators for siting or selection.

Upon initial examination of the Tier 2 evaluation, the Applicant determined that alternatives B-2 and B-3 did not meet the initial siting criteria and should not be further considered for the following reasons:

- **Alternative B-2**:
  - Crosses 3.4 miles of Brazoria NWR; and
  - Less than 20 percent co-located with existing energy infrastructure.

- **Alternative B-3**:
  - Crosses 2.7 miles of Justin Hurst Wildlife Management Area (WMA);
  - Within 1 mile of Duranzo Plantation, a National Register of Historic Places (NRHP) District; and
  - Although this route does not traverse U.S. Fish and Wildlife (USFWS) designated critical habitat, it is adjacent to USFWS designated critical habitat for the piping plover (*Charadrius melodus*).

The Applicant then began to examine alternatives B-1, B-4, and B-5 in greater detail. Alternatives B-4 and B-5 do have crossings within Brazoria NWR; however, upon further investigation, the Applicant noted that these routes could incorporate minor reroutes to avoid these constraints, thereby allowing them not to be disqualified. Discriminating criteria show that alternatives B-4 and B-5 would traverse 1 mile more of National Wetlands Inventory (NWI) identified estuarine and marine wetlands than alternative B-1, and that alternatives B-4 and B-5 are considerably less co-located with existing infrastructure as compared to alternative B-1. As such, the Applicant determined that alternatives B-1, B-4, and B-5 were all viable, but alternative B-1would be the preferred option based upon the siting criteria in Table 1. Alternative B-1 contains less mileage of NWI-identified wetlands, a smaller number of stream crossings, and less mileage within floodplains than alternatives B-4 and B-5. Table 2 provides a summary of the evaluation conducted for onshore Segment B.

Table 2. Tier 2 Siting Criteria – Onshore Segment B

Tier 2 Siting Criteria	B-1	B-2	B-3	B-4	B-5
Total Length (statute miles)	35.1	33.6	44.7	36.1	36.4
Federal, State, and Locally Owned Property (statute miles)					
Brazoria National Wildlife Refuge	--	3.4	--	0.3	0.3
Justin Hurst Wildlife Management Area	--	--	2.7	--	--

Table 2. Tier 2 Siting Criteria – Onshore Segment B

Tier 2 Siting Criteria	B-1	B-2	B-3	B-4	B-5
Land Cover/Land Use (statute miles)					
Barren Land	0.6	1.1	0.0	0.7	0.6
Cultivated Crops	5.4	6.5	5.8	5.5	6.2
Deciduous Forest	0.3	0.1	1.5	--	--
Developed, High Intensity	--	--	--	--	--
Developed, Low Intensity	0.3	0.1	0.5	0.4	0.5
Developed, Medium Intensity	--	--	0.2	0.1	0.1
Developed, Open Space	1.2	0.3	0.9	0.6	1.2
Emergent Herbaceous Wetlands	N/A	N/A	N/A	N/A	N/A
Evergreen Forest	0.1	--	1.5	--	--
Hay/Pasture	14.0	10.1	16.2	11.3	10.4
Herbaceous	2.3	1.2	1.0	1.3	1.3
Mixed Forest	0.0	--	0.4	--	--
Open Water	0.3	0.2	0.3	0.3	0.4
Shrub/Scrub	1.6	0.6	2.0	1.5	1.4
Woody Wetlands	N/A	N/A	N/A	N/A	N/A
Prime Farmland Soils (statute miles)	25.1	19.8	36.0	27.0	26.7
National Wetlands Inventory (NWI) Wetlands (statute miles)					
Estuarine and Marine Deepwater	0.3	0.4	0.1	0.3	0.3
Estuarine and Marine Wetland	2.0	1.7	0.4	3.0	3.0
Freshwater Emergent Wetland	0.4	4.2	4.7	0.6	0.6
Freshwater Forested/Shrub Wetland	0.2	0.2	2.7	0.1	0.0
Freshwater Pond	0.3	0.1	0.2	0.1	0.1
Lake	--	0.4	0.0	--	--
Riverine	0.2	0.2	0.2	0.2	0.2
Waterbodies (number crossed)					
Artificial Path	7	5	8	7	8
Canal/Ditch	32	31	28	30	30
Intermittent Stream/River	10	7	13	11	11

Table 2. Tier 2 Siting Criteria – Onshore Segment B

Tier 2 Siting Criteria	B-1	B-2	B-3	B-4	B-5
Perennial Stream/River	--	7	--	4	3
Floodplains (statute miles)	13.4	17.2	16.6	18.2	18.4
National Register of Historic Places (NRHP)					
NRHP Points (Structure, Object, Building) & Building Polygons (count within 0.25 mile)	--	--	--	--	--
NRHP District (count within 1 mile)	--	--	1 – Duranzo Plantation	--	--
U.S. Fish and Wildlife Service (USFWS) Designated Critical Habitat	*No USFWS designated critical habitat along any alternatives, but it is noted that alternative B-3 is adjacent to piping plover designated critical habitat*				
Steep Slopes	*No steep slopes along any alternatives, therefore a non-discriminator for siting or selection*				
Shallow Bedrock	*No shallow bedrock along any alternatives, therefore a non-discriminator for siting or selection*				
Karst Topography	*No karst topography along any alternatives, therefore a non-discriminator for siting or selection*				
Pipeline Crossings	19	18	22	17	17
Electrical Transmission Line Crossings	9	3	10	5	5
Road Crossings	26	16	36	31	31
Colocation with Energy Infrastructure					
Statute miles colocation	19.8	5.9	16.5	5.5	5.5
Percent total of alternative that is colocated	56%	17%	37%	15%	15%

Based upon the results of the siting of the onshore pipelines above, the Applicant looked to identify alternative locations for the onshore crude oil storage facility and pumping station for the SPOT Project. Initially the existing ECHO Terminal was evaluated for expansion to serve the proposed Project; however, it was determined that this was not viable, as there was not an additional 100 acres available at ECHO Terminal for expansion. As a result, the Applicant identified alternatives for a new storage terminal downstream from the ECHO Terminal. This included identifying land parcels that had the potential for being available, greater than 100 acres, generally upland, currently undeveloped or unutilized, and adjacent to or near onshore pipeline alternative B-1. Based upon this review, the Applicant identified four alternative locations for the onshore storage terminal to be carried forward into Tier 2. These are illustrated on Figure 23-3 (attached).

The Applicant then examined each of alternatives against the Tier 2 siting criteria. The results of this analysis can be found in Table 3. As shown in Table 3, the following criteria do not exist along any of the alternatives, and therefore are non-discriminators for siting or selection: federal, state, and locally owned property; NRHP; USFWS designated critical habitat; steep slopes; shallow bedrock; karst topography; pipeline crossings; electrical transmission line crossings; and road crossings.

Upon initial review of the Tier 2 evaluation, the Applicant noted that there were differences between the National Land Cover Database (NLCD) land cover data for wetlands and the NWI identified wetlands, with the NLCD showing considerably greater areas of wetlands. In order to verify the desktop evaluation, the Applicant then conducted a reconnaissance level field visit of the alternative sites. During the reconnaissance, it was determined that the NWI was generally a good indicator of wetland presence within this area, with the NLCD identifying many areas of upland as woody wetlands. As such, for this analysis, NWI identified wetlands alone were utilized as an indicator for wetland presence.

All four alternatives were found to be viable, but not all were found to be desirable. The Madeley SW alternative is not located adjacent to alternative B-1 and would require additional new pipeline to be added for the interconnection. Additionally, this alternative had the most noise sensitive areas (NSAs) within 1 statute mile, with several residences to the south. Therefore, with other viable alternatives present, the Madeley SW alternative was not considered further. The Madeley NE alternative was also found to not be desirable; the site has more potential wetlands that must be avoided or mitigated, more forested areas, and has 16 NSAs within 0.5-mile. Therefore, the Madeley NE alternative was not considered further, either.

This left the Applicant with Oyster Creek – Option 1 and Oyster Creek – Option 2 as similar low-impact alternatives for siting of the onshore storage terminal. According to the NWI identified wetlands, Oyster Creek - Option 1 contains more riverine features than Oyster Creek - Option 2; no wetlands were identified on either alternative sites. However, another discriminator between the two alternatives is that Oyster Creek – Option 1 has only four NSAs within 0.5-mile and is located just west of the Seabreeze Environmental Landfill. Because a landfill is located near Oyster Creek – Option 1, it is unlikely that future residential development would occur in this area. Conversely Oyster Creek – Option 2 has 12 NSAs within 0.5-mile and is between two areas of residential development. Based on the positions of these two alternatives in the current landscape, the Applicant determined that Oyster Creek – Option 1 was the preferred alternative to be carried forward.

Table 3. Tier 2 Siting Criteria – Onshore Crude Oil Storage Terminal

Tier 2 Siting Criteria	Oyster Creek – Option 1	Oyster Creek – Option 2	Madeley NE	Madeley SW
Total Acres	110.1	120.8	180.0	140.2

Table 3. Tier 2 Siting Criteria – Onshore Crude Oil Storage Terminal

Tier 2 Siting Criteria	Oyster Creek – Option 1	Oyster Creek – Option 2	Madeley NE	Madeley SW
Federal, State, and Locally Owned Property	*No Federal, State, and Locally Owned Property exists within the Alternatives, therefore a non-discriminator for siting or selection*			
Land Cover/Land Use (acres)[1]				
Cultivated Crops	--	112.4	--	--
Deciduous Forest	--	--	2.7	12.1
Developed, Low Intensity	--	--	2.2	--
Developed, Open Space	--	--	--	6.7
Emergent Herbaceous Wetlands	N/A	N/A	N/A	N/A
Hay/Pasture	8.9	4.7	17.2	28.5
Herbaceous	--	--	--	0.1
Shrub/Scrub	--	0.8	7.2	24.5
Woody Wetlands	N/A	N/A	N/A	N/A
Prime Farmland Soils (acres)	59.2	60.4	161.4	140.2
National Wetlands Inventory (NWI) Wetlands (acres)				
Estuarine and Marine Deepwater	--	--	--	--
Estuarine and Marine Wetland	--	--	--	--
Freshwater Emergent Wetland	--	--	20.3	0.1
Freshwater Forested/Shrub Wetland	--	--	--	--
Freshwater Pond	--	--	--	--
Lake	--	--	--	--
Riverine	1.8	0.3	3.8	0.9
Waterbodies (statute mile [kilometers] crossed)				
Artificial Path	--	--	--	--

Table 3. Tier 2 Siting Criteria – Onshore Crude Oil Storage Terminal

Tier 2 Siting Criteria	Oyster Creek – Option 1	Oyster Creek – Option 2	Madeley NE	Madeley SW
Canal/Ditch	0.8	0.2	1.7	0.4
Intermittent Stream/River	--	--	--	--
Perennial Stream/River	--	--	--	--
Floodplains (acres)	--	--	14.6	--
National Register of Historic Places (NRHP)				
NRHP Points (Structure, Object, Building) & Building Polygons (count within 0.25 statute mile)	*No NRHP Points exist within 0.25 statute mile of the Alternatives, therefore a non-discriminator for siting or selection*			
NRHP District (count within 1 statute mile)	*No NRHP Districts exist within 1 statute mile of the Alternatives, therefore a non-discriminator for siting or selection*			
U.S. Fish and Wildlife Service (USFWS) Designated Critical Habitat	*No USFWS designated critical habitat exists within the Alternatives, therefore a non-discriminator for siting or selection*			
Steep Slopes	*No steep slopes exist within the Alternatives, therefore a non-discriminator for siting or selection*			
Shallow Bedrock	*No shallow bedrock exists within the Alternatives, therefore a non-discriminator for siting or selection*			
Karst Topography	*No karst topography exists within the Alternatives, therefore a non-discriminator for siting or selection*			
Pipeline Crossings	--	--	--	--
Electrical Transmission Line Crossings	--	--	--	--
Road Crossings	--	--	--	--
Noise Sensitive Areas within 0.5 statute mile	4	12	16	50

Notes:
[1] National Land Cover Database (NLCD) was not utilized as an indicator for wetlands in this analysis. Field reconnaissance showed NWI to be a more accurate indicator of wetlands for the purposes of this siting analysis.

Compensation

The majority of the onshore SPOT Project area is co-located with existing pipeline ROW and powerline easements in order to avoid and minimize potential negative impacts to waters of the U.S. Applicant has selected an alignment that minimizes effects to private landowners and sensitive resources such as palustrine forested (PFO) wetlands and the Brazoria National Wildlife

Refuge by electing to reduce workspace areas or avoid those resources to the maximum extent practicable and is within project safety parameters. In many cases, the proposed construction workspace areas have been reduced or horizontal directional drills (HDD) are proposed to reduce or avoid wetland, waterbody, or sensitive resource impacts.

However, as a result of the size of the infrastructure necessary to fulfill the purpose and need of the SPOT Project, permanent impacts to 6.07 acres of palustrine emergent (PEM) and 0.18 acre of PFO wetland are unavoidable. The proposed project will also result in the conversion of 6.55 acres of PFO wetland to PEM wetland, 0.40 acre of palustrine scrub-shrub (PSS) wetland to PEM wetland, and 1.45 acres of estuarine scrub-shrub (ESS) wetland to estuarine emergent (EEM) wetland. In total, 14.65 acres of wetlands will be permanently filled or converted.

To compensate for permanent fill within wetlands and wetland conversion areas, the Applicant proposes to purchase credits from approved mitigation banks. In the event that credits are unavailable, the Applicant will satisfy mitigation requirements by other means in accordance with the hierarchy mitigation options preferred by the USACE - Galveston District.

ENG 4345 Attachment
Sea Port Oil Terminal Project
USACE File No. SWG-2018-00751

Figures

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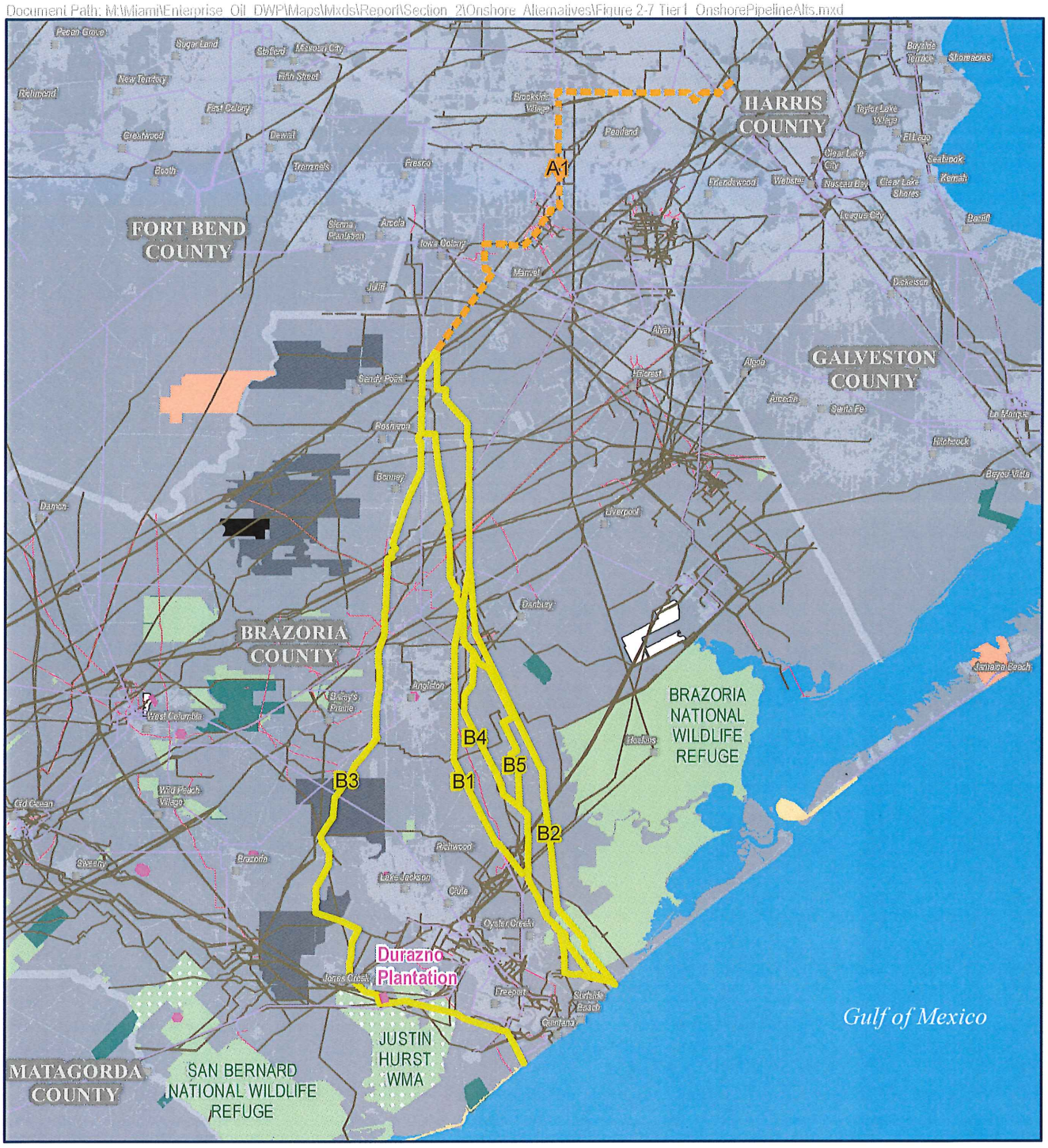

Onshore Pipeline Alternatives
- Segment A
- Segment B

- NHRP
- Electric Transmission Lines
- In-service Pipeline
- Abandoned Pipeline

- Piping Plover Critical Habitat
- State Parks
- Conservation Easements
- Wildlife Management Areas
- USFWS Interest Land

- Department of Corrections Land
- Department of Criminal Justice Land
- Other State Agency Land

0 2.5 5 10 Miles
0 2.5 5 10 Nautical Miles

N W E S

Figure 23-2
Tier 1 Pipeline Alternatives

SPOT Terminal Services LLC

SPOT Sea Port Oil Terminal

Source - ESRI, HIFLD, NPMS, NPS, RRC, TX DOT, USFWS

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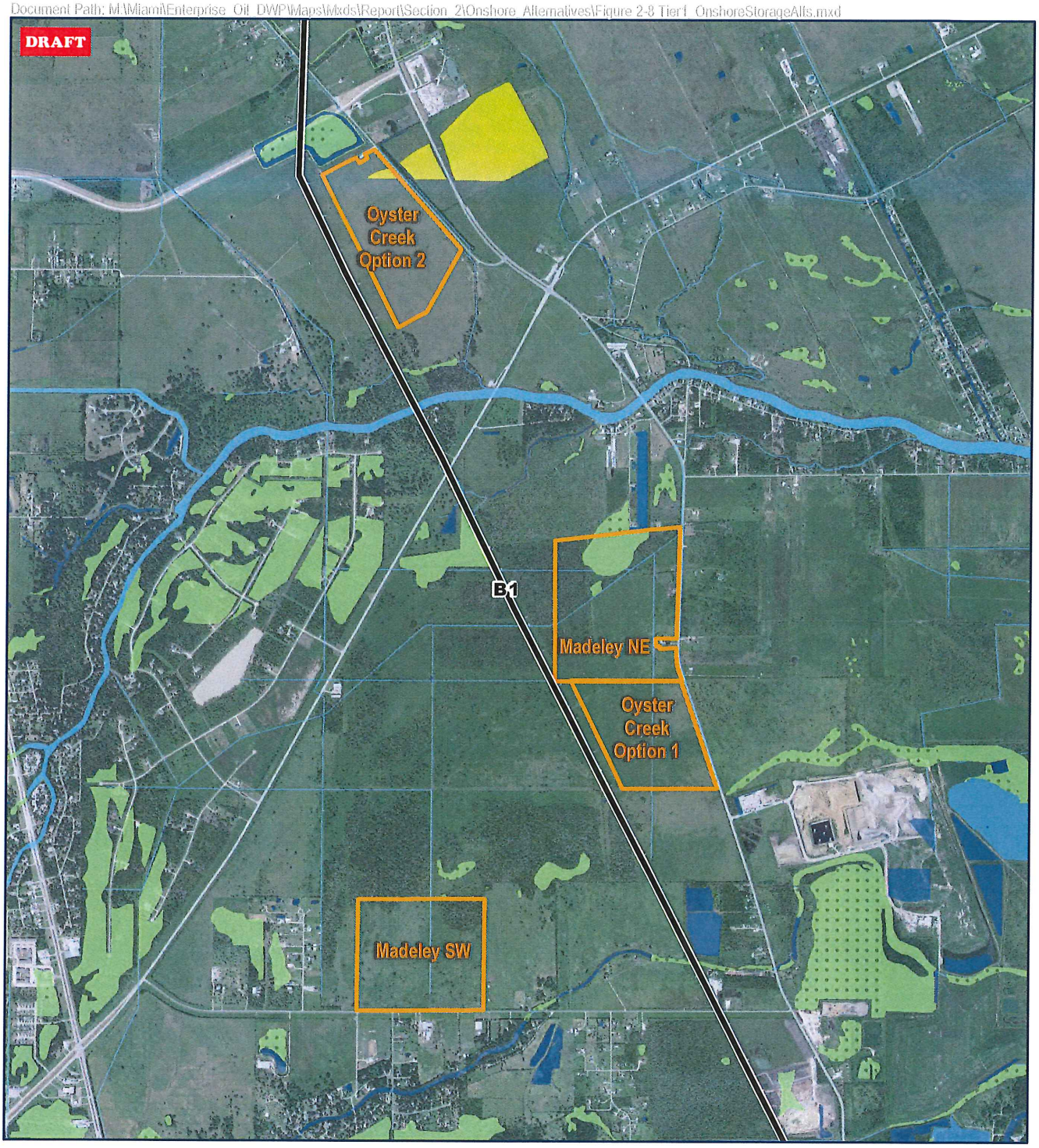

Onshore Pipeline Alternatives (Segment B)

Onshore Storage Terminal Alternatives

0 1,000 2,000 Feet

0 250 500 1,000 Meters

USFWS NWI Wetland Type

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Riverine

Other

SPOT Sea Port Oil Terminal

Figure 23-3

Tier 1 Onshore Storage Terminal Alternatives

SPOT Terminal Services LLC

Source - ESRI, NAIP, USFWS